==========Invited Talks==========

1, TITLE: The Importance of Interaction for Information Retrieval
https://doi.org/10.1145/3331184.3331185
AUTHORS: W. Bruce Croft
HIGHLIGHT: I will describe the specific lines of research we have followed at the Center for Intelligent Information Retrieval and RMIT, including interactive answer passage retrieval, studies of information-seeking dialogues, and neural models for selecting responses and answers.

2, TITLE: Automatic Understanding of the Visual World
https://doi.org/10.1145/3331184.3340264
AUTHORS: Cordelia Schmid
HIGHLIGHT: In this talk, I will present recent progress of my team in this direction.

==========Long Papers==========

3, TITLE: A General Framework for Counterfactual Learning-to-Rank
https://doi.org/10.1145/3331184.3331202
AUTHORS: Aman Agarwal, Kenta Takatsu, Ivan Zaitsev, Thorsten Joachims
HIGHLIGHT: Going beyond this special case, this paper provides a general and theoretically rigorous framework for counterfactual learning-to-rank that enables unbiased training for a broad class of additive ranking metrics (e.g., Discounted Cumulative Gain (DCG)) as well as a broad class of models (e.g., deep networks).

4, TITLE: To Model or to Intervene: A Comparison of Counterfactual and Online Learning to Rank from User Interactions
https://doi.org/10.1145/3331184.3331269
AUTHORS: Rolf Jagerman, Harrie Oosterhuis, Maarten de Rijke
HIGHLIGHT: In this study we provide the first benchmarking of both counterfactual and online LTR methods under different experimental conditions.

5, TITLE: Domain Adaptation for Enterprise Email Search
https://doi.org/10.1145/3331184.3331204
AUTHORS: Brandon Tran, Maryam Karimzadehgan, Rama Kumar Pasumarthi, Michael Bendersky, Donald Metzler
HIGHLIGHT: To address this data challenge, in this paper we propose a domain adaptation approach that fine-tunes the global model to each individual enterprise.

6, TITLE: Health Cards for Consumer Health Search
https://doi.org/10.1145/3331184.3331194
AUTHORS: Jimmy Jimmy, Guido Zuccon, Bevan Koopman, Gianluca Demartini
HIGHLIGHT: This paper investigates the impact of health cards in consumer health search (CHS) - people seeking health advice online.

7, TITLE: Hate Speech Detection is Not as Easy as You May Think: A Closer Look at Model Validation
https://doi.org/10.1145/3331184.3331262
AUTHORS: Aym? Arango, Jorge P?rez, Barbara Poblete
HIGHLIGHT: In this work, we analyze this apparent contradiction between existing literature and actual applications.

8, TITLE: Harvesting Drug Effectiveness from Social Media
https://doi.org/10.1145/3331184.3331263
AUTHORS: Zi Chai, Xiaojun Wan, Zhao Zhang, Minjie Li
HIGHLIGHT: In this paper, we propose a model regarding mention pairs as nodes connected by multiple types of edges. To this end, we build a dataset containing 25K tweets describing drug use, and further harvest drug effectiveness by performing Relation Extraction (RE) between chemicals and diseases.

9, TITLE: Generic Intent Representation in Web Search
https://doi.org/10.1145/3331184.3331198
AUTHORS: Hongfei Zhang, Xia Song, Chenyan Xiong, Corby Rosset, Paul N. Bennett, Nick Craswell, Saurabh Tiwary
HIGHLIGHT: This paper presents GEneric iNtent Encoder (GEN Encoder) which learns a distributed representation space for user intent in search.

10, TITLE: Quantifying and Alleviating the Language Prior Problem in Visual Question Answering
https://doi.org/10.1145/3331184.3331186
AUTHORS: Yangyang Guo, Zhiyong Cheng, Liqiang Nie, Yibing Liu, Yinglong Wang, Mohan Kankanhalli
HIGHLIGHT: In this paper, we make contributions to solve the above problems from two perspectives.

11, TITLE: Document Gated Reader for Open-Domain Question Answering
https://doi.org/10.1145/3331184.3331190
AUTHORS: Bingning Wang, Ting Yao, Qi Zhang, Jingfang Xu, Zhixing Tian, Kang Liu, Jun Zhao
HIGHLIGHT: In this paper, we propose a document gated reader to generate the right answer from multiple documents.

12, TITLE: Adaptive Multi-Attention Network Incorporating Answer Information for Duplicate Question Detection
https://doi.org/10.1145/3331184.3331228
AUTHORS: Di Liang, Fubao Zhang, Weidong Zhang, Qi Zhang, Jinlan Fu, Minlong Peng, Tao Gui, Xuanjing Huang
HIGHLIGHT: In this paper, we propose an answer information- enhanced adaptive multi-attention network (AMAN) to perform this task.

13, TITLE: Answering Complex Questions by Joining Multi-Document Evidence with Quasi Knowledge Graphs
https://doi.org/10.1145/3331184.3331252
AUTHORS: Xiaolu Lu, Soumajit Pramanik, Rishiraj Saha Roy, Abdalghani Abujabal, Yafang Wang, Gerhard Weikum
HIGHLIGHT: This paper presents QUEST, a method that can answer complex questions directly from textual sources on-the-fly, by computing similarity joins over partial results from different documents.

14, TITLE: Controlling Risk of Web Question Answering
https://doi.org/10.1145/3331184.3331261
AUTHORS: Lixin Su, Jiafeng Guo, Yixin Fan, Yanyan Lan, Xueqi Cheng
HIGHLIGHT: In this work, we first conduct an in-depth investigation over the risk of Web QA. We then introduce a novel risk control framework, which consists of a qualify model for uncertainty estimation using the probe idea, and a decision model for selectively output.

15, TITLE: Relational Collaborative Filtering: Modeling Multiple Item Relations for Recommendation
https://doi.org/10.1145/3331184.3331188
AUTHORS: Xin Xin, Xiangnan He, Yongfeng Zhang, Yongdong Zhang, Joemon Jose
HIGHLIGHT: In this work, we propose Relational Collaborative Filtering (RCF) to exploit multiple item relations in recommender systems.

16, TITLE: Noise Contrastive Estimation for One-Class Collaborative Filtering
https://doi.org/10.1145/3331184.3331201
AUTHORS: Ga Wu, Maksims Volkovs, Chee Loong Soon, Scott Sanner, Himanshu Rai
HIGHLIGHT: To address this deficiency, we leverage insights from Noise Contrastive Estimation (NCE) to derive a closed-form, efficiently computable "depopularized" embedding.

17, TITLE: Compositional Coding for Collaborative Filtering
https://doi.org/10.1145/3331184.3331206
AUTHORS: Chenghao Liu, Tao Lu, Xin Wang, Zhiyong Chenghao, Jianling Sun, Steven C.H. Hoi
HIGHLIGHT: In this work, we attempt to improve the efficiency without hurting the model performance by utilizing both the accuracy of real-valued vectors and the efficiency of binary codes to represent users/items.

18, TITLE: Unified Collaborative Filtering over Graph Embeddings
https://doi.org/10.1145/3331184.3331224
AUTHORS: Pengfei Wang, Hanxiong Chen, Yadong Zhu, Huawei Shen, Yongfeng Zhang
HIGHLIGHT: In this paper, we propose a Unified Collaborative Filtering framework based on Graph Embeddings (UGrec for short) to solve the problem.

19, TITLE: Neural Graph Collaborative Filtering
https://doi.org/10.1145/3331184.3331267
AUTHORS: Xiang Wang, Xiangnan He, Meng Wang, Fuli Feng, Tat-Seng Chua
HIGHLIGHT: In this work, we propose to integrate the user-item interactions - more specifically the bipartite graph structure - into the embedding process.

20, TITLE: Knowledge Tracing with Sequential Key-Value Memory Networks

https://doi.org/10.1145/3331184.3331195
AUTHORS: Ghodai Abdelrahman, Qing Wang
HIGHLIGHT: In this paper, we address these limitations by proposing a novel deep learning model for knowledge tracing, namely Sequential Key-Value Memory Networks (SKVMN).

21, TITLE: Personal Knowledge Base Construction from Text-based Lifelogs
https://doi.org/10.1145/3331184.3331209
AUTHORS: An-Zi Yen, Hen-Hsen Huang, Hsin-Hsi Chen
HIGHLIGHT: In this paper, we aim to extract life events from textual data shared on Twitter and construct personal knowledge bases of individuals.

22, TITLE: Identifying Entity Properties from Text with Zero-shot Learning
https://doi.org/10.1145/3331184.3331220
AUTHORS: Wiradee Imrattanatrai, Makoto P. Kato, Masatoshi Yoshikawa
HIGHLIGHT: We propose a method for identifying a set of entity properties from text.

23, TITLE: One-Class Order Embedding for Dependency Relation Prediction
https://doi.org/10.1145/3331184.3331249
AUTHORS: Meng-Fen Chiang, Ee-Peng Lim, Wang-Chien Lee, Xavier Jayaraj Siddarth Ashok, Philips Kokoh Prasetyo
HIGHLIGHT: We therefore propose a framework that performs dependency relation prediction by exploring both rich semantic and hierarchical structure information in the data.

24, TITLE: ENT Rank: Retrieving Entities for Topical Information Needs through Entity-Neighbor-Text Relations
https://doi.org/10.1145/3331184.3331257
AUTHORS: Laura Dietz
HIGHLIGHT: Related work has demonstrated the helpfulness of utilizing information about entities in text retrieval; here we explore the converse: Utilizing information about text in entity retrieval.

25, TITLE: An Efficient Adaptive Transfer Neural Network for Social-aware Recommendation
https://doi.org/10.1145/3331184.3331192
AUTHORS: Chong Chen, Min Zhang, Chenyang Wang, Weizhi Ma, Minming Li, Yiqun Liu, Shaoping Ma
HIGHLIGHT: To address the above problems, we propose an Efficient Adaptive Transfer Neural Network (EATNN).

26, TITLE: A Neural Influence Diffusion Model for Social Recommendation
https://doi.org/10.1145/3331184.3331214
AUTHORS: Le Wu, Peijie Sun, Yanjie Fu, Richang Hong, Xiting Wang, Meng Wang
HIGHLIGHT: In this paper, we propose a deep influence propagation model to stimulate how users are influenced by the recursive social diffusion process for social recommendation.

27, TITLE: Adversarial Mahalanobis Distance-based Attentive Song Recommender for Automatic Playlist Continuation
https://doi.org/10.1145/3331184.3331234
AUTHORS: Thanh Tran, Renee Sweeney, Kyumin Lee
HIGHLIGHT: In this paper, we aim to solve the automatic playlist continuation (APC) problem by modeling complex interactions among users, playlists, and songs using only their interaction data.

28, TITLE: Interact and Decide: Medley of Sub-Attention Networks for Effective Group Recommendation
https://doi.org/10.1145/3331184.3331251
AUTHORS: Lucas Vinh Tran, Tuan-Anh Nguyen Pham, Yi Tay, Yiding Liu, Gao Cong, Xiaoli Li
HIGHLIGHT: This paper proposes Medley of Sub-Attention Networks (MoSAN), a new novel neural architecture for the group recommendation task.

29, TITLE: Transparent, Scrutable and Explainable User Models for Personalized Recommendation
https://doi.org/10.1145/3331184.3331211
AUTHORS: Krisztian Balog, Filip Radlinski, Shushan Arakelyan
HIGHLIGHT: In this paper, we present a new set-based recommendation technique that permits the user model to be explicitly presented to users in natural language, empowering users to understand recommendations made and improve the recommendations dynamically.

30, TITLE: A Capsule Network for Recommendation and Explaining What You Like and Dislike
https://doi.org/10.1145/3331184.3331216

AUTHORS: Chenliang Li, Cong Quan, Li Peng, Yunwei Qi, Yuming Deng, Libing Wu
HIGHLIGHT: To this end, in this paper, we propose a capsule network based model for rating prediction with user reviews, named CARP.

31, TITLE: Reinforcement Knowledge Graph Reasoning for Explainable Recommendation
https://doi.org/10.1145/3331184.3331203
AUTHORS: Yikun Xian, Zuohui Fu, S. Muthukrishnan, Gerard de Melo, Yongfeng Zhang
HIGHLIGHT: Unlike most existing approaches that only focus on leveraging knowledge graphs for more accurate recommendation, we aim to conduct explicit reasoning with knowledge for decision making so that the recommendations are generated and supported by an interpretable causal inference procedure.

32, TITLE: The FacT: Taming Latent Factor Models for Explainability with Factorization Trees
https://doi.org/10.1145/3331184.3331244
AUTHORS: Yiyi Tao, Yiling Jia, Nan Wang, Hongning Wang
HIGHLIGHT: In this work, we integrate regression trees to guide the learning of latent factor models for recommendation, and use the learnt tree structure to explain the resulting latent factors.

33, TITLE: Privacy-aware Document Ranking with Neural Signals
https://doi.org/10.1145/3331184.3331189
AUTHORS: Jinjin Shao, Shiyu Ji, Tao Yang
HIGHLIGHT: This paper analyzes the critical leakages in interaction-based neural ranking and studies countermeasures to mitigate such a leakage. It proposes a privacy-aware neural ranking scheme that integrates tree ensembles with kernel value obfuscation and a soft match map based on adaptively-clustered term closures.

34, TITLE: Legal Intelligence for E-commerce: Multi-task Learning by Leveraging Multiview Dispute Representation
https://doi.org/10.1145/3331184.3331212
AUTHORS: Xin Zhou, Yating Zhang, Xiaozhong Liu, Changlong Sun, Luo Si
HIGHLIGHT: This paper proposes a novel research task of Legal Dispute Judgment (LDJ) prediction for e-commerce transactions, which connects two yet isolated domains, e-commerce data mining and legal intelligence.

35, TITLE: Hierarchical Matching Network for Crime Classification
https://doi.org/10.1145/3331184.3331223
AUTHORS: Pengfei Wang, Yu Fan, Shuzi Niu, Ze Yang, Yongfeng Zhang, Jiafeng Guo
HIGHLIGHT: In this paper, we formalize crime classification problem into a matching task to address these issues.

36, TITLE: Learning from Fact-checkers: Analysis and Generation of Fact-checking Language
https://doi.org/10.1145/3331184.3331248
AUTHORS: Nguyen Vo, Kyumin Lee
HIGHLIGHT: In this paper, we introduce a novel application of text generation for combating fake news.

37, TITLE: A Collaborative Session-based Recommendation Approach with Parallel Memory Modules
https://doi.org/10.1145/3331184.3331210
AUTHORS: Meirui Wang, Pengjie Ren, Lei Mei, Zhumin Chen, Jun Ma, Maarten de Rijke
HIGHLIGHT: We propose a Collaborative Session-based Recommendation Machine (CSRM), a novel hybrid framework to apply collaborative neighborhood information to session-based recommendations.

38, TITLE: Similarity-Based Synthetic Document Representations for Meta-Feature Generation in Text Classification
https://doi.org/10.1145/3331184.3331239
AUTHORS: Sergio Canuto, Thiago Salles, Thierson C. Rosa, Marcos A. Gon?alves
HIGHLIGHT: We propose new solutions that enhance and extend the already very successful application of meta-features to text classification.

39, TITLE: Finding Camouflaged Needle in a Haystack?: Pornographic Products Detection via Berrypicking Tree Model
https://doi.org/10.1145/3331184.3331197
AUTHORS: Guoxiu He, Yangyang Kang, Zhe Gao, Zhuoren Jiang, Changlong Sun, Xiaozhong Liu, Wei Lu, Qiong Zhang, Luo Si
HIGHLIGHT: In this study, we propose a novel task to dynamically locate the pornographic products from very large product collections.

40, TITLE: Why do Users Issue Good Queries?: Neural Correlates of Term Specificity

https://doi.org/10.1145/3331184.3331243
AUTHORS: Lauri Kangassalo, Michiel Spap?, Giulio Jacucci, Tuukka Ruotsalo
HIGHLIGHT: We investigated the association between the specificity of terms occurring in documents and human brain activity measured via electroencephalography (EEG).

41, TITLE: Context Attentive Document Ranking and Query Suggestion
https://doi.org/10.1145/3331184.3331246
AUTHORS: Wasi Uddin Ahmad, Kai-Wei Chang, Hongning Wang
HIGHLIGHT: We present a context-aware neural ranking model to exploit users' on-task search activities and enhance retrieval performance.

42, TITLE: Information Needs, Queries, and Query Performance Prediction
https://doi.org/10.1145/3331184.3331253
AUTHORS: Oleg Zendel, Anna Shtok, Fiana Raiber, Oren Kurland, J. Shane Culpepper
HIGHLIGHT: We demonstrate the far-reaching implications of this reality using standard TREC-based evaluation of QPP methods: their relative prediction quality patterns vary with respect to the effectiveness of queries used to represent the information needs. Motivated by our findings, we revise the basic probabilistic formulation of the QPP task by accounting for the information need and its connection to the query.

43, TITLE: Task Completion Detection: A Study in the Context of Intelligent Systems
https://doi.org/10.1145/3331184.3331187
AUTHORS: Ryen W. White, Ahmed Hassan Awadallah, Robert Sim
HIGHLIGHT: In this paper, we present methods to automatically detect task completion.

44, TITLE: Bridging Gaps: Predicting User and Task Characteristics from Partial User Information
https://doi.org/10.1145/3331184.3331221
AUTHORS: Matthew Mitsui, Chirag Shah
HIGHLIGHT: We approach this as a structure learning problem on incomplete data, determining the extent to which incomplete data can be used to predict user and task characteristics from interactions.

45, TITLE: Human Behavior Inspired Machine Reading Comprehension
https://doi.org/10.1145/3331184.3331231
AUTHORS: Yukun Zheng, Jiaxin Mao, Yiqun Liu, Zixin Ye, Min Zhang, Shaoping Ma
HIGHLIGHT: In this paper, we conduct a lab study to investigate human's reading behavior patterns during reading comprehension tasks, where 32 users are recruited to take 60 distinct tasks.

46, TITLE: EnsembleGAN: Adversarial Learning for Retrieval-Generation Ensemble Model on Short-Text Conversation
https://doi.org/10.1145/3331184.3331193
AUTHORS: Jiayi Zhang, Chongyang Tao, Zhenjing Xu, Qiaojing Xie, Wei Chen, Rui Yan
HIGHLIGHT: In this paper, we propose ensembleGAN, an adversarial learning framework for enhancing a retrieval-generation ensemble model in open-domain conversation scenario.

47, TITLE: User Attention-guided Multimodal Dialog Systems
https://doi.org/10.1145/3331184.3331226
AUTHORS: Chen Cui, Wenjie Wang, Xuemeng Song, Minlie Huang, Xin-Shun Xu, Liqiang Nie
HIGHLIGHT: Towards this end, in this work, we present a hierarchical User attention-guided Multimodal Dialog system, named UMD for short.

48, TITLE: Triple-to-Text: Converting RDF Triples into High-Quality Natural Languages via Optimizing an Inverse KL Divergence
https://doi.org/10.1145/3331184.3331232
AUTHORS: Yaoming Zhu, Juncheng Wan, Zhiming Zhou, Liheng Chen, Lin Qiu, Weinan Zhang, Xin Jiang, Yong Yu
HIGHLIGHT: In this paper, we argue that such a problem of maximum likelihood estimation is intrinsic, which is generally irrevocable via changing network structures.

49, TITLE: Video Dialog via Multi-Grained Convolutional Self-Attention Context Networks
https://doi.org/10.1145/3331184.3331240
AUTHORS: Weike Jin, Zhou Zhao, Mao Gu, Jun Yu, Jun Xiao, Yueting Zhuang
HIGHLIGHT: In this paper, we propose a novel approach for video dialog called multi-grained convolutional self-attention context network, which combines video information with dialog history.

50, TITLE: Asking Clarifying Questions in Open-Domain Information-Seeking Conversations
https://doi.org/10.1145/3331184.3331265
AUTHORS: Mohammad Aliannejadi, Hamed Zamani, Fabio Crestani, W. Bruce Croft
HIGHLIGHT: In this paper, we formulate the task of asking clarifying questions in open-domain information-seeking conversational systems.
To this end, we propose an offline evaluation methodology for the task and collect a dataset, called Qulac, through crowdsourcing.

51, TITLE: Accelerated Query Processing Via Similarity Score Prediction
https://doi.org/10.1145/3331184.3331207
AUTHORS: Matthias Petri, Alistair Moffat, Joel Mackenzie, J. Shane Culpepper, Daniel Beck
HIGHLIGHT: In this work, we consider algorithmic properties associated with dynamic pruning mechanisms.

52, TITLE: Optimal Freshness Crawl Under Politeness Constraints
https://doi.org/10.1145/3331184.3331241
AUTHORS: Andrey Kolobov, Yuval Peres, Eyal Lubetzky, Eric Horvitz
HIGHLIGHT: In this paper, we introduce PoliteBinaryLambdaCrawl, the first optimal algorithm for freshness crawl scheduling in the presence of politeness constraints as well as non-uniform page importance scores and the crawler's own crawl request limit.

53, TITLE: Statistical Significance Testing in Information Retrieval: An Empirical Analysis of Type I, Type II and Type III Errors
https://doi.org/10.1145/3331184.3331259
AUTHORS: Juli?n Urbano, Harlley Lima, Alan Hanjalic
HIGHLIGHT: In contrast to past studies, in this paper we employ a recent simulation methodology from TREC data to go around these limitations.

54, TITLE: CROSS: Cross-platform Recommendation for Social E-Commerce
https://doi.org/10.1145/3331184.3331191
AUTHORS: Tzu-Heng Lin, Chen Gao, Yong Li
HIGHLIGHT: In this paper, we address the problem of cross-platform recommendation for social e-commerce, i.e., recommending products to users when they are shopping through social media.

55, TITLE: Hot Topic-Aware Retweet Prediction with Masked Self-attentive Model
https://doi.org/10.1145/3331184.3331236
AUTHORS: Renfeng Ma, Xiangkun Hu, Qi Zhang, Xuanjing Huang, Yu-Gang Jiang
HIGHLIGHT: To make efficient use of hot topics, we propose a novel masked self-attentive model to perform the retweet prediction task by perceiving the hot topics discussed by the users' followees.

56, TITLE: Mention Recommendation in Twitter with Cooperative Multi-Agent Reinforcement Learning
https://doi.org/10.1145/3331184.3331237
AUTHORS: Tao Gui, Peng Liu, Qi Zhang, Liang Zhu, Minlong Peng, Yunhua Zhou, Xuanjing Huang
HIGHLIGHT: In this work, we propose the use of a novel cooperative multi-agent approach to mention recommendation, which incorporates dozens of more historical tweets than earlier approaches.

57, TITLE: Online User Representation Learning Across Heterogeneous Social Networks
https://doi.org/10.1145/3331184.3331258
AUTHORS: Weiqing Wang, Hongzhi Yin, Xingzhong Du, Wen Hua, Yongjun Li, Quoc Viet Hung Nguyen
HIGHLIGHT: In this paper, we propose MV-URL, a multi-view user representation learning model to enhance user modeling by integrating the knowledge from various networks.

58, TITLE: PSGAN: A Minimax Game for Personalized Search with Limited and Noisy Click Data
https://doi.org/10.1145/3331184.3331218
AUTHORS: Shuqi Lu, Zhicheng Dou, Xu Jun, Jian-Yun Nie, Ji-Rong Wen
HIGHLIGHT: In this paper, we propose PSGAN, a Generative Adversarial Network (GAN) framework for personalized search.

59, TITLE: Lifelong Sequential Modeling with Personalized Memorization for User Response Prediction
https://doi.org/10.1145/3331184.3331230
AUTHORS: Kan Ren, Jiarui Qin, Yuchen Fang, Weinan Zhang, Lei Zheng, Weijie Bian, Guorui Zhou, Jian Xu, Yong Yu, Xiaoqiang Zhu, Kun Gai

HIGHLIGHT: In order to tackle these challenges, in this paper, we propose a Hierarchical Periodic Memory Network for lifelong sequential modeling with personalized memorization of sequential patterns for each user.

60, TITLE: Multi-view Embedding-based Synonyms for Email Search
https://doi.org/10.1145/3331184.3331250
AUTHORS: Cheng Li, Mingyang Zhang, Michael Bendersky, Hongbo Deng, Donald Metzler, Marc Najork
HIGHLIGHT: Therefore, in this paper, we propose a solution tailored to the challenges of synonym expansion for email search.

61, TITLE: Context-Aware Intent Identification in Email Conversations
https://doi.org/10.1145/3331184.3331260
AUTHORS: Wei Wang, Saghar Hosseini, Ahmed Hassan Awadallah, Paul N. Bennett, Chris Quirk
HIGHLIGHT: In this paper, we study intent identification in workplace email.

62, TITLE: Which Diversity Evaluation Measures Are "Good"?
https://doi.org/10.1145/3331184.3331215
AUTHORS: Tetsuya Sakai, Zhaohao Zeng
HIGHLIGHT: This study evaluates 30 IR evaluation measures or their instances, of which nine are for adhoc IR and 21 are for diversified IR, primarily from the viewpoint of whether their preferences of one SERP (search engine result page) over another actually align with users' preferences.

63, TITLE: Investigating Passage-level Relevance and Its Role in Document-level Relevance Judgment
https://doi.org/10.1145/3331184.3331233
AUTHORS: Zhijing Wu, Jiaxin Mao, Yiqun Liu, Min Zhang, Shaoping Ma
HIGHLIGHT: A thorough analysis reveals that: 1) there is a strong correlation between the document-level relevance and the fractions of irrelevant passages to highly relevant passages; 2) the position, length and query similarity of passages play different roles in the determination of document-level relevance; 3) The sequential passage-level relevance within a document is a potential indicator for the document-level relevance.

64, TITLE: Jointly Modeling Relevance and Sensitivity for Search Among Sensitive Content
https://doi.org/10.1145/3331184.3331256
AUTHORS: Mahmoud F. Sayed, Douglas W. Oard
HIGHLIGHT: This paper proposes an approach that leverages learning to rank techniques.

65, TITLE: Revisiting Online Personal Search Metrics with the User in Mind
https://doi.org/10.1145/3331184.3331266
AUTHORS: Azin Ashkan, Donald Metzler
HIGHLIGHT: The proposed framework introduces a variant of online metrics called pMetrics (short for personalized metrics) that are based on the average search habits of users for the relevance signal of interest.

66, TITLE: Scalable Deep Multimodal Learning for Cross-Modal Retrieval
https://doi.org/10.1145/3331184.3331213
AUTHORS: Peng Hu, Liangli Zhen, Dezhong Peng, Pei Liu
HIGHLIGHT: In this paper, we present a novel cross-modal retrieval method, called Scalable Deep Multimodal Learning (SDML).

67, TITLE: Neural-Network Lexical Translation for Cross-lingual IR from Text and Speech
https://doi.org/10.1145/3331184.3331222
AUTHORS: Rabih Zbib, Lingjun Zhao, Damianos Karakos, William Hartmann, Jay DeYoung, Zhongqiang Huang, Zhuolin Jiang, Noah Rivkin, Le Zhang, Richard Schwartz, John Makhoul
HIGHLIGHT: We propose a neural network model to estimate word translation probabilities for Cross-Lingual Information Retrieval (CLIR).

68, TITLE: Cross-Modal Interaction Networks for Query-Based Moment Retrieval in Videos
https://doi.org/10.1145/3331184.3331235
AUTHORS: Zhu Zhang, Zhijie Lin, Zhou Zhao, Zhenxin Xiao
HIGHLIGHT: In this paper, we introduce a novel Cross-Modal Interaction Network (CMIN) to consider multiple crucial factors for this challenging task, including (1) the syntactic structure of natural language queries; (2) long-range semantic dependencies in video context and (3) the sufficient cross-modal interaction.

69, TITLE: Bayesian Personalized Feature Interaction Selection for Factorization Machines
https://doi.org/10.1145/3331184.3331196
AUTHORS: Yifan Chen, Pengjie Ren, Yang Wang, Maarten de Rijke
HIGHLIGHT: In this work, we address this issue and study Personalized Feature Interaction Selection (P-FIS) by proposing a Bayesian Personalized Feature Interaction Selection (BP-FIS) mechanism under the Bayesian Variable Selection (BVS) theory.

70, TITLE: CTRec: A Long-Short Demands Evolution Model for Continuous-Time Recommendation
https://doi.org/10.1145/3331184.3331199
AUTHORS: Ting Bai, Lixin Zou, Wayne Xin Zhao, Pan Du, Weidong Liu, Jian-Yun Nie, Ji-Rong Wen
HIGHLIGHT: In this paper, we propose a novel self-attentive Continuous-Time Recommendation model (CTRec) for capturing the evolving demands of users over time.

71, TITLE: p-Net: A Parallel Information-sharing Network for Shared-account Cross-domain Sequential Recommendations
https://doi.org/10.1145/3331184.3331200
AUTHORS: Muyang Ma, Pengjie Ren, Yujie Lin, Zhumin Chen, Jun Ma, Maarten de Rijke
HIGHLIGHT: We propose a Parallel Information-sharing Network (p-Net) to simultaneously generate recommendations for two domains where user behaviors on two domains are synchronously shared at each timestamp.

72, TITLE: Warm Up Cold-start Advertisements: Improving CTR Predictions via Learning to Learn ID Embeddings
https://doi.org/10.1145/3331184.3331268
AUTHORS: Feiyang Pan, Shuokai Li, Xiang Ao, Pingzhong Tang, Qing He
HIGHLIGHT: In this paper, we aim to improve CTR predictions during both the cold-start phase and the warm-up phase when a new ad is added to the candidate pool.

73, TITLE: Effects of User Negative Experience in Mobile News Streaming
https://doi.org/10.1145/3331184.3331247
AUTHORS: Hongyu Lu, Min Zhang, Weizhi Ma, Ce Wang, Feng xia, Yiqun Liu, Leyu Lin, Shaoping Ma
HIGHLIGHT: In this work, a retrospective analysis is conducted using real users' log data, containing user's explicit feedback of negative experiences, from a commercial news streaming application.

74, TITLE: Online Multi-modal Hashing with Dynamic Query-adaption
https://doi.org/10.1145/3331184.3331217
AUTHORS: Xu Lu, Lei Zhu, Zhiyong Cheng, Liqiang Nie, Huaxiang Zhang
HIGHLIGHT: To address the above limitations, in this paper, we propose an Online Multi-modal Hashing with Dynamic Query-adaption (OMH-DQ) method in a novel fashion.

75, TITLE: Supervised Hierarchical Cross-Modal Hashing
https://doi.org/10.1145/3331184.3331229
AUTHORS: Changchang Sun, Xuemeng Song, Fuli Feng, Wayne Xin Zhao, Hao Zhang, Liqiang Nie
HIGHLIGHT: In this paper, we propose a new end-to-end solution for supervised cross-modal hashing, named HiCHNet, which explicitly exploits the hierarchical labels of instances.
Due to the lack of benchmark datasets, apart from adapting the existing dataset FashionVC from fashion domain, we create a dataset from the online fashion platform Ssense consisting of 15,696 image-text pairs labeled by 32 hierarchical categories.

76, TITLE: Unsupervised Neural Generative Semantic Hashing
https://doi.org/10.1145/3331184.3331255
AUTHORS: Casper Hansen, Christian Hansen, Jakob Grue Simonsen, Stephen Alstrup, Christina Lioma
HIGHLIGHT: We present a novel unsupervised generative semantic hashing approach, Ranking based Semantic Hashing (RBSH) that consists of both a variational and a ranking based component.

77, TITLE: Outline Generation: Understanding the Inherent Content Structure of Documents
https://doi.org/10.1145/3331184.3331208
AUTHORS: Ruqing Zhang, Jiafeng Guo, Yixing Fan, Yanyan Lan, Xueqi Cheng
HIGHLIGHT: In this paper, we introduce and tackle the Outline Generation (OG) task, which aims to unveil the inherent content structure of a multi-paragraph document by identifying its potential sections and generating the corresponding section headings.
Besides, we build a novel Wriptsize IKI OG dataset, a public collection which consists of over 1.75 million document-outline pairs for research on the OG task.

78, TITLE: DivGraphPointer: A Graph Pointer Network for Extracting Diverse Keyphrases
https://doi.org/10.1145/3331184.3331219

AUTHORS: Zhiqing Sun, Jian Tang, Pan Du, Zhi-Hong Deng, Jian-Yun Nie
HIGHLIGHT: This paper presents an end-to-end method called DivGraphPointer for extracting a set of diversified keyphrases from a document.

79, TITLE: Personalized Fashion Recommendation with Visual Explanations based on Multimodal Attention Network: Towards Visually Explainable Recommendation
https://doi.org/10.1145/3331184.3331254
AUTHORS: Xu Chen, Hanxiong Chen, Hongteng Xu, Yongfeng Zhang, Yixin Cao, Zheng Qin, Hongyuan Zha
HIGHLIGHT: This paper proposes a novel neural architecture for fashion recommendation based on both image region-level features and user review information.

80, TITLE: Interpretable Fashion Matching with Rich Attributes
https://doi.org/10.1145/3331184.3331242
AUTHORS: Xun Yang, Xiangnan He, Xiang Wang, Yunshan Ma, Fuli Feng, Meng Wang, Tat-Seng Chua
HIGHLIGHT: We propose a new solution named A ttribute-based I nterpretable C ompatibility (AIC) method, which consists of three modules: 1) a tree-based module that extracts decision rules on matching prediction; 2) an embedding module that learns vector representation for a rule by accounting for the attribute semantics; and 3) a joint modeling module that unifies the visual embedding and rule embedding to predict the matching score.

81, TITLE: Prototype-guided Attribute-wise Interpretable Scheme for Clothing Matching
https://doi.org/10.1145/3331184.3331245
AUTHORS: Xianjing Han, Xuemeng Song, Jianhua Yin, Yinglong Wang, Liqiang Nie
HIGHLIGHT: Considering that the research line of the comprehensively interpretable clothing matching is largely untapped, in this work, we propose a prototype-guided attribute-wise interpretable compatibility modeling (PAICM) scheme, which seamlessly integrates the latent compatible/incompatible prototype learning and compatibility modeling with the Bayesian personalized ranking (BPR) framework.

82, TITLE: Teach Machine How to Read: Reading Behavior Inspired Relevance Estimation
https://doi.org/10.1145/3331184.3331205
AUTHORS: Xiangsheng Li, Jiaxin Mao, Chao Wang, Yiqun Liu, Min Zhang, Shaoping Ma
HIGHLIGHT: In this paper, we aim to reexamine the existing models as well as to propose new ones based on the findings in how human read documents during relevance judgment.

83, TITLE: Improving the Accuracy of System Performance Estimation by Using Shards
https://doi.org/10.1145/3331184.3338062
AUTHORS: Nicola Ferro, Mark Sanderson
HIGHLIGHT: We improve the measurement accuracy of retrieval system performance by better modeling the noise present in test collection scores.

84, TITLE: Fast Approximate Filtering of Search Results Sorted by Attribute
https://doi.org/10.1145/3331184.3331227
AUTHORS: Franco Maria Nardini, Roberto Trani, Rossano Venturini
HIGHLIGHT: In this paper, we propose epsilon-Filtering: an efficient approximate algorithm with strong approximation guarantees on the relevance of the final list.

85, TITLE: Intervention Harvesting for Context-Dependent Examination-Bias Estimation
https://doi.org/10.1145/3331184.3331238
AUTHORS: Zhichong Fang, Aman Agarwal, Thorsten Joachims
HIGHLIGHT: To overcome this limitation, we propose a Contextual Position-Based Model (CPBM) where the examination bias may also depend on a context vector describing the query and the user.

86, TITLE: Variance Reduction in Gradient Exploration for Online Learning to Rank
https://doi.org/10.1145/3331184.3331264
AUTHORS: Huazheng Wang, Sonwoo Kim, Eric McCord-Snook, Qingyun Wu, Hongning Wang
HIGHLIGHT: In this work, we aim at reducing the variance of gradient estimation in OL2R algorithms.

==========Short Papers==========

87, TITLE: Yelling at Your TV: An Analysis of Speech Recognition Errors and Subsequent User Behavior on Entertainment Systems

https://doi.org/10.1145/3331184.3331271
AUTHORS: Raphael Tang, Ferhan Ture, Jimmy Lin
HIGHLIGHT: We provide both quantitative and qualitative analyses, examining the acoustic as well as lexical attributes of the utterances.

88, TITLE: Learning More From Less: Towards Strengthening Weak Supervision for Ad-Hoc Retrieval
https://doi.org/10.1145/3331184.3331272
AUTHORS: Dany Haddad, Joydeep Ghosh
HIGHLIGHT: Building on these insights, we propose two methods to reduce the amount of training data required.

89, TITLE: Network Embedding and Change Modeling in Dynamic Heterogeneous Networks
https://doi.org/10.1145/3331184.3331273
AUTHORS: Ranran Bian, Yun Sing Koh, Gillian Dobbie, Anna Divoli
HIGHLIGHT: We develop a novel representation learning method, change2vec, which considers a dynamic heterogeneous network as snapshots of networks with different time stamps.

90, TITLE: From Text to Sound: A Preliminary Study on Retrieving Sound Effects to Radio Stories
https://doi.org/10.1145/3331184.3331274
AUTHORS: Songwei Ge, Curtis Xuan, Ruihua Song, Chao Zou, Wei Liu, Jin Zhou
HIGHLIGHT: In this paper, we address the problem of automatically adding sound effects to radio stories with a retrieval-based model.

91, TITLE: Length-adaptive Neural Network for Answer Selection
https://doi.org/10.1145/3331184.3331277
AUTHORS: Taihua Shao, Fei Cai, Honghui Chen, Maarten de Rijke
HIGHLIGHT: To address this issue, we propose a Length-adaptive Neural Network (LaNN) for answer selection that can auto-select a neural feature extractor according to the length of the input sentence.

92, TITLE: Embedding Edge-attributed Relational Hierarchies
https://doi.org/10.1145/3331184.3331278
AUTHORS: Muhao Chen, Chris Quirk
HIGHLIGHT: In this paper, we propose a novel embedding method that simultaneously preserve the hierarchical property and the edge information in the edge-attributed relational hierarchies.

93, TITLE: Leveraging Emotional Signals for Credibility Detection
https://doi.org/10.1145/3331184.3331285
AUTHORS: Anastasia Giachanou, Paolo Rosso, Fabio Crestani
HIGHLIGHT: In this paper, we study the role of emotional signals in fake news detection.

94, TITLE: Encoding Syntactic Dependency and Topical Information for Social Emotion Classification
https://doi.org/10.1145/3331184.3331287
AUTHORS: Chang Wang, Bang Wang, Wei Xiang, Minghua Xu
HIGHLIGHT: In this paper, we design a new neural network model by encoding sentence syntactic dependency and document topical information into the document representation.

95, TITLE: Information Cascades Modeling via Deep Multi-Task Learning
https://doi.org/10.1145/3331184.3331288
AUTHORS: Xueqin Chen, Kunpeng Zhang, Fan Zhou, Goce Trajcevski, Ting Zhong, Fengli Zhang
HIGHLIGHT: In this paper, we propose a deep multi-task learning framework with a novel design of shared-representation layer to aid in explicitly understanding and predicting the cascades.

96, TITLE: An Analysis of the Change in Discussions on Social Media with Bitcoin Price
https://doi.org/10.1145/3331184.3331304
AUTHORS: Andrew Burnie, Emine Yilmaz
HIGHLIGHT: We develop a new approach to temporalizing word2vec-based topic modelling that determines which topics on social media vary with shifts in the phases of a time series to understand potential interactions.

97, TITLE: Ensembles of Recurrent Networks for Classifying the Relationship of Fake News Titles
https://doi.org/10.1145/3331184.3331305
AUTHORS: Ting Su, Craig Macdonald, Iadh Ounis

HIGHLIGHT: In this paper, we investigate the advantages of recurrent neural networks-based language representations (e.g., BERT, BiLSTM) in order to build ensemble classifiers that can accurately predict if one news title is related to, and, additionally disagrees with an earlier news title.

98, TITLE: Contextually Propagated Term Weights for Document Representation
https://doi.org/10.1145/3331184.3331307
AUTHORS: Casper Hansen, Christian Hansen, Stephen Alstrup, Jakob Grue Simonsen, Christina Lioma
HIGHLIGHT: We present a novel model that, given a target word, redistributes part of that word's weight (that has been computed with word embeddings) across words occurring in similar contexts as the target word.

99, TITLE: Time-Limits and Summaries for Faster Relevance Assessing
https://doi.org/10.1145/3331184.3331270
AUTHORS: Shahin Rahbariasl, Mark D. Smucker
HIGHLIGHT: We conducted a user study with 60 participants where we investigated the impact of time limits (15, 30, and 60 seconds) and document size (full length vs. short summaries) on relevance assessing.

100, TITLE: Deep Collaborative Discrete Hashing with Semantic-Invariant Structure
https://doi.org/10.1145/3331184.3331275
AUTHORS: Zijian Wang, Zheng Zhang, Yadan Luo, Zi Huang
HIGHLIGHT: This paper proposes a dual-stream learning framework, dubbed Deep Collaborative Discrete Hashing (DCDH), which constructs a discriminative common discrete space by collaboratively incorporating the shared and individual semantics deduced from visual features and semantic labels.

101, TITLE: On Topic Difficulty in IR Evaluation: The Effect of Systems, Corpora, and System Components
https://doi.org/10.1145/3331184.3331279
AUTHORS: Fabio Zampieri, Kevin Roitero, J. Shane Culpepper, Oren Kurland, Stefano Mizzaro
HIGHLIGHT: In this paper we study the effects on the topic difficulty of: (i) the set of retrieval systems; (ii) the underlying document corpus; and (iii) the system components.

102, TITLE: M-HIN: Complex Embeddings for Heterogeneous Information Networks via Metagraphs
https://doi.org/10.1145/3331184.3331281
AUTHORS: Yang Fang, Xiang Zhao, Peixin Huang, Weidong Xiao, Maarten de Rijke
HIGHLIGHT: Inspired by developments in knowledge graph embedding, we propose to construct HIN triplets using nodes and metagraphs between them.

103, TITLE: How to Deal with Scarce Annotations in Answer Selection
https://doi.org/10.1145/3331184.3331291
AUTHORS: Emmanuel Vallee, Delphine Charlet, Gabriel Marzinotto, Fabrice Clerot, Frank Meyer
HIGHLIGHT: In this work, we are interested in simple models that can potentially give good performance on datasets with no or few annotations.

104, TITLE: One-Class Collaborative Filtering with the Queryable Variational Autoencoder
https://doi.org/10.1145/3331184.3331292
AUTHORS: Ga Wu, Mohamed Reda Bouadjenek, Scott Sanner
HIGHLIGHT: To address this issue, we propose a novel Queryable Variational Autoencoder (Q-VAE) variant of the VAE that explicitly models arbitrary conditional relationships between observations.

105, TITLE: Developing Evaluation Metrics for Instant Search Using Mixed Methods Methods
https://doi.org/10.1145/3331184.3331293
AUTHORS: Praveen Chandar, Jean Garcia-Gathright, Christine Hosey, Brian St. Thomas, Jennifer Thom
HIGHLIGHT: In this work, we describe a mixed methods approach to understanding user expectations and evaluating an instant search system in the context of music search.

106, TITLE: FAQ Retrieval Using Attentive Matching
https://doi.org/10.1145/3331184.3331294
AUTHORS: Sparsh Gupta, Vitor R. Carvalho
HIGHLIGHT: In this paper we propose multiple deep learning architectures designed for FAQ Retrieval that eliminate the need for feature engineering and are able to elegantly combine both query-question and query-answer similarities.

107, TITLE: Item Recommendation by Combining Relative and Absolute Feedback Data

https://doi.org/10.1145/3331184.3331295
AUTHORS: Saikishore Kalloori, Tianyu Li, Francesco Ricci
HIGHLIGHT: Hence, in this work, we develop a ranking technique that separately exploits absolute and relative preferences in a hybrid model.

108, TITLE: Multiple Query Processing via Logic Function Factoring
https://doi.org/10.1145/3331184.3331297
AUTHORS: Matteo Catena, Nicola Tonellotto
HIGHLIGHT: In this work, we propose an approach to optimize the processing of query variations to reduce their overall response time.

109, TITLE: Information Nutritional Label and Word Embedding to Estimate Information Check-Worthiness
https://doi.org/10.1145/3331184.3331298
AUTHORS: C?dric Lespagnol, Josiane Mothe, Md Zia Ullah
HIGHLIGHT: In this paper, we revisit the information check-worthiness problem and propose a method that combines the "information nutritional label" features with POS-tags and word-embedding representations.

110, TITLE: Unbiased Low-Variance Estimators for Precision and Related Information Retrieval Effectiveness Measures
https://doi.org/10.1145/3331184.3331355
AUTHORS: Gordon V. Cormack, Maura R. Grossman
HIGHLIGHT: This work describes an estimator from which unbiased measurements of precision, rank-biased precision, and cumulative gain may be derived from a uniform or non-uniform sample of relevance assessments.

111, TITLE: Multi-Level Matching Networks for Text Matching
https://doi.org/10.1145/3331184.3331276
AUTHORS: Chunlin Xu, Zhiwei Lin, Shengli Wu, Hui Wang
HIGHLIGHT: Therefore, instead of making decisions utilizing single level word representations, a multi-level matching network (MMN) is proposed in this paper for text matching, which utilizes multiple levels of word representations to obtain multiple word level matching results for final text level matching decision.

112, TITLE: Investigating the Interplay Between Searchers' Privacy Concerns and Their Search Behavior
https://doi.org/10.1145/3331184.3331280
AUTHORS: Steven Zimmerman, Alistair Thorpe, Chris Fox, Udo Kruschwitz
HIGHLIGHT: Our primary goal is to understand the extent to which attitudes towards privacy are linked to behaviors that protect privacy.

113, TITLE: A Systematic Comparison of Methods for Finding Good Premises for Claims
https://doi.org/10.1145/3331184.3331282
AUTHORS: Lorik Dumani, Ralf Schenkel
HIGHLIGHT: In this paper we compare 196 methods systematically for determining similar claims by textual similarity, using a large corpus of (claim, premise) pairs crawled from debate portals.

114, TITLE: Graph Intention Network for Click-through Rate Prediction in Sponsored Search
https://doi.org/10.1145/3331184.3331283
AUTHORS: Feng Li, Zhenrui Chen, Pengjie Wang, Yi Ren, Di Zhang, Xiaoyu Zhu
HIGHLIGHT: We propose a new approach Graph Intention Network (GIN) based on co-occurrence commodity graph to mine user intention.

115, TITLE: A Scalable Virtual Document-Based Keyword Search System for RDF Datasets
https://doi.org/10.1145/3331184.3331284
AUTHORS: Dennis Dosso, Gianmaria Silvello
HIGHLIGHT: This work describes the TSA+VDP keyword search system for effective and efficient keyword search over large RDF datasets.

116, TITLE: Query-Task Mapping
https://doi.org/10.1145/3331184.3331286
AUTHORS: Michael V?lske, Ehsan Fatehifar, Benno Stein, Matthias Hagen
HIGHLIGHT: Several recent task-based search studies aim at splitting query logs into sets of queries for the same task or information need. We address the natural next step: mapping a currently submitted query to an appropriate task in an already task-split log.

117, TITLE: An Analysis of Query Reformulation Techniques for Precision Medicine
https://doi.org/10.1145/3331184.3331289
AUTHORS: Maristella Agosti, Giorgio Maria Di Nunzio, Stefano Marchesin
HIGHLIGHT: In the paper, we take advantage of this opportunity and we propose and evaluate state-of-the-art query expansion and reduction techniques to identify whether a particular approach can be helpful in both scientific literature and clinical trial retrieval.

118, TITLE: Using Trails to Support Users with Tasks of Varying Scope
https://doi.org/10.1145/3331184.3331290
AUTHORS: Robert Capra, Jaime Arguello
HIGHLIGHT: In this paper, we examine two questions. First, what are task characteristics that influence a user's ability to gain benefits from others' trails? Second, what is the impact of a "mismatch" between a current user's task and previous user's task which originated the trail?

119, TITLE: An Axiomatic Approach to Regularizing Neural Ranking Models
https://doi.org/10.1145/3331184.3331296
AUTHORS: Corby Rosset, Bhaskar Mitra, Chenyan Xiong, Nick Craswell, Xia Song, Saurabh Tiwary
HIGHLIGHT: This work explores the use of IR axioms to augment the direct supervision from labeled data for training neural ranking models.

120, TITLE: Deeper Text Understanding for IR with Contextual Neural Language Modeling
https://doi.org/10.1145/3331184.3331303
AUTHORS: Zhuyun Dai, Jamie Callan
HIGHLIGHT: This paper proposes a Deep Contextualized Term Weighting framework (DeepCT) that identifies import terms by taking into consideration the meaning of the term and the role it plays in a specific context.

121, TITLE: Understanding the Interpretability of Search Result Summaries
https://doi.org/10.1145/3331184.3331306
AUTHORS: Siyu Mi, Jiepu Jiang
HIGHLIGHT: We examine the interpretability of search results in current web search engines through a lab user study.

122, TITLE: Content-Based Weak Supervision for Ad-Hoc Re-Ranking
https://doi.org/10.1145/3331184.3331316
AUTHORS: Sean MacAvaney, Andrew Yates, Kai Hui, Ophir Frieder
HIGHLIGHT: In contrast with prior work, we examine the use of weak supervision sources for training that yield pseudo query-document pairs that already exhibit relevance (e.g., newswire headline-content pairs and encyclopedic heading-paragraph pairs).

123, TITLE: Evaluating Variable-Length Multiple-Option Lists in Chatbots and Mobile Search
https://doi.org/10.1145/3331184.3331308
AUTHORS: Pepa Atanasova, Georgi Karadzhov, Yasen Kiprov, Preslav Nakov, Fabrizio Sebastiani
HIGHLIGHT: How to produce good variable-length lists, given the conflicting objectives of staying short while maximizing the likelihood of having a correct answer included in the list, is an underexplored problem. It is also unclear how to evaluate a system that tries to do that. Here we aim to bridge this gap.

124, TITLE: On Tradeoffs Between Document Signature Methods for a Legal Due Diligence Corpus
https://doi.org/10.1145/3331184.3331311
AUTHORS: Adam Roegiest, Edward Lee
HIGHLIGHT: We present an examination of the tradeoffs that document signature methods face in the due diligence domain.

125, TITLE: A study on the Interpretability of Neural Retrieval Models using DeepSHAP
https://doi.org/10.1145/3331184.3331312
AUTHORS: Zeon Trevor Fernando, Jaspreet Singh, Avishek Anand
HIGHLIGHT: In this paper we explored various reference input document construction techniques.

126, TITLE: Automatic Task Completion Flows from Web APIs
https://doi.org/10.1145/3331184.3331318
AUTHORS: Kyle Williams, Seyyed Hadi Hashemi, Imed Zitouni
HIGHLIGHT: We propose a method to automatically produce task completion flows from a collection of these APIs by combining them in a graph and automatically extracting paths from the graph for task completion.

127, TITLE: Ontology-Aware Clinical Abstractive Summarization
https://doi.org/10.1145/3331184.3331319
AUTHORS: Sean MacAvaney, Sajad Sotudeh, Arman Cohan, Nazli Goharian, Ish Talati, Ross W. Filice
HIGHLIGHT: We propose a sequence-to-sequence abstractive summarization model augmented with domain-specific ontological information to enhance content selection and summary generation.

128, TITLE: Hyperlink Classification via Structured Graph Embedding
https://doi.org/10.1145/3331184.3331325
AUTHORS: Geon Lee, Seonggoo Kang, Joyce Jiyoung Whang
HIGHLIGHT: We formally define a hyperlink classification problem in web search by classifying hyperlinks into three classes based on their roles: navigation, suggestion, and action.

129, TITLE: Answer-enhanced Path-aware Relation Detection over Knowledge Base
https://doi.org/10.1145/3331184.3331328
AUTHORS: Daoyuan Chen, Min Yang, Hai-Tao Zheng, Yaliang Li, Ying Shen
HIGHLIGHT: In this paper, we propose a Knowledge-driven Relation Detection network (KRD) to interactively learn answer-enhanced question representations and path-aware relation representations for relation detection.

130, TITLE: Block-distributed Gradient Boosted Trees
https://doi.org/10.1145/3331184.3331331
AUTHORS: Theodore Vasiloudis, Hyunsu Cho, Henrik Bostr?m
HIGHLIGHT: In order to allow for scalability across both the data point and feature dimensions, and reduce communication cost, we propose block-distributed GBTs.

131, TITLE: Table2Vec: Neural Word and Entity Embeddings for Table Population and Retrieval
https://doi.org/10.1145/3331184.3331333
AUTHORS: Li Zhang, Shuo Zhang, Krisztian Balog
HIGHLIGHT: We employ neural language modeling approaches to embed tabular data into vector spaces.

132, TITLE: Coarse-to-Fine Grained Classification
https://doi.org/10.1145/3331184.3331336
AUTHORS: Yuqi Huo, Yao Lu, Yulei Niu, Zhiwu Lu, Ji-Rong Wen
HIGHLIGHT: In this paper, we define a new problem called coarse-to-fine grained classification (C2FGC) which aims to recognize the classes of objects in multiple resolutions (from low to high).

133, TITLE: Local Matrix Approximation based on Graph Random Walk
https://doi.org/10.1145/3331184.3331338
AUTHORS: Xuejiao Yang, Bang Wang
HIGHLIGHT: In this paper, we propose a novel scheme for local matrix construction without involving distance computation.

134, TITLE: A Context-based Framework for Resource Citation Classification in Scientific Literatures
https://doi.org/10.1145/3331184.3331348
AUTHORS: He Zhao, Zhunchen Luo, Chong Feng, Yuming Ye
HIGHLIGHT: In this paper, we introduce the task of resource citation classification for scientific literature using a context-based framework.
We propose a new annotation scheme for this task and develop a dataset of 3,088 manually annotated resource citations.

135, TITLE: Text Retrieval Priors for Bayesian Logistic Regression
https://doi.org/10.1145/3331184.3331299
AUTHORS: Eugene Yang, David D. Lewis, Ophir Frieder
HIGHLIGHT: Building on past work, we show that BM25-inspired Gaussian priors for Bayesian logistic regression based on topical keywords provide better effectiveness than the usual L2 (zero mode, uniform variance) Gaussian prior.

136, TITLE: A Lightweight Representation of News Events on Social Media
https://doi.org/10.1145/3331184.3331300
AUTHORS: Mauricio Quezada, Barbara Poblete
HIGHLIGHT: We propose a lightweight representation of newsworthy social media data.

137, TITLE: Analyzing and Predicting News Popularity in an Instant Messaging Service
https://doi.org/10.1145/3331184.3331301
AUTHORS: Mohammad Naseri, Hamed Zamani
HIGHLIGHT: In this paper, we provide an initial study to analyze and predict news popularity in an instant messaging service.

138, TITLE: Adversarial Training for Review-Based Recommendations
https://doi.org/10.1145/3331184.3331313
AUTHORS: Dimitrios Rafailidis, Fabio Crestani
HIGHLIGHT: In this paper, we propose an Adversarial Training approach for Review-based recommendations, namely ATR.

139, TITLE: A New Perspective on Score Standardization
https://doi.org/10.1145/3331184.3331315
AUTHORS: Juli?n Urbano, Harlley Lima, Alan Hanjalic
HIGHLIGHT: In this paper, we show that both approaches are actually special cases of a simple standardization which assumes specific distributions for the per-topic scores.

140, TITLE: Adversarial Collaborative Neural Network for Robust Recommendation
https://doi.org/10.1145/3331184.3331321
AUTHORS: Feng Yuan, Lina Yao, Boualem Benatallah
HIGHLIGHT: In this work, we propose a general adversarial training framework for NN-based recommendation models, improving both the model robustness and the overall performance.

141, TITLE: Sequence and Time Aware Neighborhood for Session-based Recommendations: STAN
https://doi.org/10.1145/3331184.3331322
AUTHORS: Diksha Garg, Priyanka Gupta, Pankaj Malhotra, Lovekesh Vig, Gautam Shroff
HIGHLIGHT: In this work, we propose Sequence and Time Aware Neighborhood (STAN), with vanilla SKNN as its special case.

142, TITLE: Addressing Vocabulary Gap in E-commerce Search
https://doi.org/10.1145/3331184.3331323
AUTHORS: Subhadeep Maji, Rohan Kumar, Manish Bansal, Kalyani Roy, Mohit Kumar, Pawan Goyal
HIGHLIGHT: Addressing Vocabulary Gap in E-commerce Search

143, TITLE: Gated Spectral Units: Modeling Co-evolving Patterns for Sequential Recommendation
https://doi.org/10.1145/3331184.3331329
AUTHORS: Lei Zheng, Ziwei Fan, Chun-Ta Lu, Jiawei Zhang, Philip S. Yu
HIGHLIGHT: In order to capture the co-evolving knowledge for sequential recommendations, we start from introducing an efficient spectral convolution operation to discover complex relationships between users and items from the spectral domain of a graph, where the hidden connectivity information of the graph can be revealed.

144, TITLE: Deep Distribution Network: Addressing the Data Sparsity Issue for Top-N Recommendation
https://doi.org/10.1145/3331184.3331330
AUTHORS: Lei Zheng, Chaozhuo Li, Chun-Ta Lu, Jiawei Zhang, Philip S. Yu
HIGHLIGHT: In this work, in order to overcome the two aforementioned drawbacks, we propose Deep Distribution Network (DDN) to model users and items via Gaussian distributions.

145, TITLE: Normalized Query Commitment Revisited
https://doi.org/10.1145/3331184.3331334
AUTHORS: Haggai Roitman
HIGHLIGHT: We revisit the Normalized Query Commitment (NQC) query performance prediction (QPP) method.

146, TITLE: Quantifying Bias and Variance of System Rankings
https://doi.org/10.1145/3331184.3331356
AUTHORS: Gordon V. Cormack, Maura R. Grossman
HIGHLIGHT: We derive from tau a distance between rankings in Euclidean space, from which we can determine the magnitude of bias, variance, and error.

147, TITLE: Towards Better Support for Exploratory Search through an Investigation of Notes-to-self and Notes-to-share
https://doi.org/10.1145/3331184.3331309
AUTHORS: Anita Crescenzi, Yuan Li, Yinglong Zhang, Rob Capra

HIGHLIGHT: In this work, we investigated how people organize and structure information they discover during exploratory searches.

148, TITLE: The Emotion Profile of Web Search
https://doi.org/10.1145/3331184.3331314
AUTHORS: Gabriella Kazai, Paul Thomas, Nick Craswell
HIGHLIGHT: In this paper, we study the emotion profile of retrieved and clicked web search results towards the goal of better understanding the role of emotions in web search.

149, TITLE: CEDR: Contextualized Embeddings for Document Ranking
https://doi.org/10.1145/3331184.3331317
AUTHORS: Sean MacAvaney, Andrew Yates, Arman Cohan, Nazli Goharian
HIGHLIGHT: In this work, we investigate how two pretrained contextualized language models (ELMo and BERT) can be utilized for ad-hoc document ranking.

150, TITLE: Learning Unsupervised Semantic Document Representation for Fine-grained Aspect-based Sentiment Analysis
https://doi.org/10.1145/3331184.3331320
AUTHORS: Hao-Ming Fu, Pu-Jen Cheng
HIGHLIGHT: In this paper, we propose a model that overcomes difficulties encountered by both families of methods.

151, TITLE: Evaluating Resource-Lean Cross-Lingual Embedding Models in Unsupervised Retrieval
https://doi.org/10.1145/3331184.3331324
AUTHORS: Robert Litschko, Goran Glava?, Ivan Vulic, Laura Dietz
HIGHLIGHT: In this work, we provide a comprehensive comparative evaluation of projection-based CLE models for both sentence-level and document-level cross-lingual Information Retrieval (CLIR).

152, TITLE: FAQ Retrieval using Query-Question Similarity and BERT-Based Query-Answer Relevance
https://doi.org/10.1145/3331184.3331326
AUTHORS: Wataru Sakata, Tomohide Shibata, Ribeka Tanaka, Sadao Kurohashi
HIGHLIGHT: We propose a FAQ retrieval system that considers the similarity between a user's query and a question as well as the relevance between the query and an answer.

153, TITLE: Argument Search: Assessing Argument Relevance
https://doi.org/10.1145/3331184.3331327
AUTHORS: Martin Potthast, Lukas Gienapp, Florian Euchner, Nick Heilenk?tter, Nico Weidmann, Henning Wachsmuth, Benno Stein, Matthias Hagen
HIGHLIGHT: We report on the first user study on assessing argument relevance.

154, TITLE: Order-aware Embedding Neural Network for CTR Prediction
https://doi.org/10.1145/3331184.3331332
AUTHORS: Wei Guo, Ruiming Tang, Huifeng Guo, Jianhua Han, Wen Yang, Yuzhou Zhang
HIGHLIGHT: To solve these problems, we propose a novel technique named Order-aware Embedding (i.e., multi-embeddings are learned for each feature, and different embeddings are applied for feature interactions of different orders), which can be applied to various models and generates feature interactions more effectively.

155, TITLE: The Impact of Score Ties on Repeatability in Document Ranking
https://doi.org/10.1145/3331184.3331339
AUTHORS: Jimmy Lin, Peilin Yang
HIGHLIGHT: This short paper examines the effectiveness impact of such score ties, quantifying the variability that can be attributed to this phenomenon.

156, TITLE: Critically Examining the "Neural Hype": Weak Baselines and the Additivity of Effectiveness Gains from Neural Ranking Models
https://doi.org/10.1145/3331184.3331340
AUTHORS: Wei Yang, Kuang Lu, Peilin Yang, Jimmy Lin
HIGHLIGHT: This paper provides a rigorous evaluation of those claims in two ways: First, we conducted a meta-analysis of papers that have reported experimental results on the TREC Robust04 test collection.

157, TITLE: BERT with History Answer Embedding for Conversational Question Answering
https://doi.org/10.1145/3331184.3331341

AUTHORS: Chen Qu, Liu Yang, Minghui Qiu, W. Bruce Croft, Yongfeng Zhang, Mohit Iyyer
HIGHLIGHT: We propose a conceptually simple yet highly effective approach referred to as history answer embedding.

158, TITLE: On the Effect of Low-Frequency Terms on Neural-IR Models
https://doi.org/10.1145/3331184.3331344
AUTHORS: Sebastian Hofst?tter, Navid Rekabsaz, Carsten Eickhoff, Allan Hanbury
HIGHLIGHT: In this paper, we analyze the effects of low-frequency terms on the performance and robustness of neural IR models.

159, TITLE: Effective Medical Archives Processing Using Knowledge Graphs
https://doi.org/10.1145/3331184.3331350
AUTHORS: Xiaoli Wang, Rongzhen Wang, Zhifeng Bao, Jiayin Liang, Wei Lu
HIGHLIGHT: In this paper, we focus on empowering the medical archives processing with knowledge graphs.

160, TITLE: Syntax-Aware Aspect-Level Sentiment Classification with Proximity-Weighted Convolution Network
https://doi.org/10.1145/3331184.3331351
AUTHORS: Chen Zhang, Qiuchi Li, Dawei Song
HIGHLIGHT: In this paper, we propose a proximity-weighted convolution network to offer an aspect-specific syntax-aware representation of contexts.

161, TITLE: A Study on Agreement in PICO Span Annotations
https://doi.org/10.1145/3331184.3331352
AUTHORS: Grace E. Lee, Aixin Sun
HIGHLIGHT: In this paper, we study the agreement of PICO annotations made by multiple human annotators, including both experts and non-experts.

162, TITLE: Corpus-based Set Expansion with Lexical Features and Distributed Representations
https://doi.org/10.1145/3331184.3331359
AUTHORS: Puxuan Yu, Zhiqi Huang, Razieh Rahimi, James Allan
HIGHLIGHT: We present CaSE, an efficient unsupervised corpus-based set expansion framework that leverages lexical features as well as distributed representations of entities for the set expansion task.

163, TITLE: Sparse Tensor Co-clustering as a Tool for Document Categorization
https://doi.org/10.1145/3331184.3331360
AUTHORS: Rafika Boutalbi, Lazhar Labiod, Mohamed Nadif
HIGHLIGHT: In this paper, we extend the use of the Sparse Poisson Latent Block Model to deal with sparse tensor data using jointly all information arising from documents.

164, TITLE: Numeral Attachment with Auxiliary Tasks
https://doi.org/10.1145/3331184.3331361
AUTHORS: Chung-Chi Chen, Hen-Hsen Huang, Hsin-Hsi Chen
HIGHLIGHT: In this paper we propose the task of numeral attachment to detect the attached target of a numeral.

165, TITLE: Decoding The Style And Bias of Song Lyrics
https://doi.org/10.1145/3331184.3331363
AUTHORS: Manash Pratim Barman, Amit Awekar, Sambhav Kothari
HIGHLIGHT: The central idea of this paper is to gain a deeper understanding of song lyrics computationally.

166, TITLE: Retrieving Multi-Entity Associations: An Evaluation of Combination Modes for Word Embeddings
https://doi.org/10.1145/3331184.3331366
AUTHORS: Gloria Feher, Andreas Spitz, Michael Gertz
HIGHLIGHT: In this paper, we use popular embedding methods to train vector representations of an entity-annotated news corpus, and evaluate their performance for the task of predicting entity participation in news events versus a traditional word cooccurrence network as a baseline.

167, TITLE: Modeling Transferable Topics for Cross-Target Stance Detection
https://doi.org/10.1145/3331184.3331367
AUTHORS: Penghui Wei, Wenji Mao
HIGHLIGHT: In this paper we study the problem of cross-target stance detection, utilizing labeled data of a source target to learn models that can be adapted to a destination target.

168, TITLE: TDP: Personalized Taxi Demand Prediction Based on Heterogeneous Graph Embedding
https://doi.org/10.1145/3331184.3331368
AUTHORS: Zhenlong Zhu, Ruixuan Li, Minghui Shan, Yuhua Li, Lu Gao, Fei Wang, Jixing Xu, Xiwu Gu
HIGHLIGHT: To address these challenges, in this paper, we propose Taxi Demand Prediction (TDP) model in challenging entertainment scene based on heterogeneous graph embedding and deep neural predicting network.

169, TITLE: Uncovering Insurance Fraud Conspiracy with Network Learning
https://doi.org/10.1145/3331184.3331372
AUTHORS: Chen Liang, Ziqi Liu, Bin Liu, Jun Zhou, Xiaolong Li, Shuang Yang, Yuan Qi
HIGHLIGHT: In this paper, we introduce a device-sharing network among claimants, followed by developing an automated solution for fraud detection based on graph learning algorithms, to separate fraudsters from regular customers and uncover groups of organized fraudsters.

170, TITLE: Training Streaming Factorization Machines with Alternating Least Squares
https://doi.org/10.1145/3331184.3331374
AUTHORS: Xueyu Mao, Saayan Mitra, Sheng Li
HIGHLIGHT: In this paper, we propose an online training scheme for FM with the alternating least squares (ALS) technique, which has comparable performance with existing batch training algorithms.

171, TITLE: Social Attentive Deep Q-network for Recommendation
https://doi.org/10.1145/3331184.3331302
AUTHORS: Yu Lei, Zhitao Wang, Wenjie Li, Hongbin Pei
HIGHLIGHT: In this work, we develop a Social Attentive Deep Q-network (SADQN) agent, which is able to provide high-quality recommendations during user-agent interactions by leveraging social influence among users.

172, TITLE: Cleaned Similarity for Better Memory-Based Recommenders
https://doi.org/10.1145/3331184.3331310
AUTHORS: Farhan Khawar, Nevin L. Zhang
HIGHLIGHT: In this paper, we analyze the spectral properties of the Pearson and the cosine similarity estimators, and we use tools from random matrix theory to argue that they suffer from noise and eigenvalues spreading.

173, TITLE: ABCPRec: Adaptively Bridging Consumer and Producer Roles for User-Generated Content Recommendation
https://doi.org/10.1145/3331184.3331335
AUTHORS: Kosetsu Tsukuda, Satoru Fukayama, Masataka Goto
HIGHLIGHT: In this paper, based on the state-of-the-art UGC recommendation method called CPRec (consumer and producer based recommendation), we propose ABCPRec (adaptively bridging CPRec).

174, TITLE: Improving Collaborative Metric Learning with Efficient Negative Sampling
https://doi.org/10.1145/3331184.3331337
AUTHORS: Viet-Anh Tran, Romain Hennequin, Jimena Royo-Letelier, Manuel Moussallam
HIGHLIGHT: To alleviate this problem, we propose here a 2-stage negative sampling strategy which finds triplets that are highly informative for learning.

175, TITLE: SAIN: Self-Attentive Integration Network for Recommendation
https://doi.org/10.1145/3331184.3331342
AUTHORS: Seongjun Yun, Raehyun Kim, Miyoung Ko, Jaewoo Kang
HIGHLIGHT: In this paper, we propose Self-Attentive Integration Network (SAIN) which is a model that effectively combines user-item feedback information and auxiliary information for recommendation task.

176, TITLE: Towards Context-Aware Evaluation for Image Search
https://doi.org/10.1145/3331184.3331343
AUTHORS: Yunqiu Shao, Jiaxin Mao, Yiqun Liu, Min Zhang, Shaoping Ma
HIGHLIGHT: In this paper, we pay attention to the context factor in the image search scenario.

177, TITLE: A Horizontal Patent Test Collection
https://doi.org/10.1145/3331184.3331346
AUTHORS: Mihai Lupu, Alexandros Bampoulidis, Luca Papariello
HIGHLIGHT: We motivate the need for, and describe the contents of a novel patent research collection, publicly available and for free, covering multimodal and multilingual data from six patent authorities.

178, TITLE: Dynamic Sampling Meets Pooling
https://doi.org/10.1145/3331184.3331354
AUTHORS: Gordon V. Cormack, Haotian Zhang, Nimesh Ghelani, Mustafa Abualsaud, Mark D. Smucker, Maura R. Grossman, Shahin Rahbariasl, Amira Ghenai
HIGHLIGHT: The results suggest that the use of Dynamic Sampling without pooling can, for an order of magnitude less assessment effort, yield information-retrieval effectiveness estimates that exhibit lower bias, lower error, and comparable ability to rank system effectiveness.

179, TITLE: Help Me Search: Leveraging User-System Collaboration for Query Construction to Improve Accuracy for Difficult Queries
https://doi.org/10.1145/3331184.3331362
AUTHORS: Saar Kuzi, Abhishek Narwekar, Anusri Pampari, ChengXiang Zhai
HIGHLIGHT: In this paper, we address the problem of difficult queries by using a novel strategy of collaborative query construction where the search engine would actively engage users in an iterative process to continuously revise a query.

180, TITLE: On Anonymous Commenting: A Greedy Approach to Balance Utilization and Anonymity for Instagram Users
https://doi.org/10.1145/3331184.3331364
AUTHORS: Arian Askari, Asal Jalilvand, Mahmood Neshati
HIGHLIGHT: In this paper, we explore anonymous commenting approaches and their pros and cons.

181, TITLE: Neural Compatibility Ranking for Text-based Fashion Matching
https://doi.org/10.1145/3331184.3331365
AUTHORS: SUTHEE CHAIDAROON, Yi Fang, Min Xie, Alessandro Magnani
HIGHLIGHT: To address the task of fashion matching, we propose a neural compatibility model for ranking fashion products based on the compatibility matching with the input outfit.

182, TITLE: NRPA: Neural Recommendation with Personalized Attention
https://doi.org/10.1145/3331184.3331371
AUTHORS: Hongtao Liu, Fangzhao Wu, Wenjun Wang, Xianchen Wang, Pengfei Jiao, Chuhan Wu, Xing Xie
HIGHLIGHT: In this paper we propose a neural recommendation approach with personalized attention to learn personalized representations of users and items from reviews.

183, TITLE: Vertical Search Blending: A Real-world Counterfactual Dataset
https://doi.org/10.1145/3331184.3331345
AUTHORS: Pavel Proch?zka, Matej Koci?n, Jakub Drd?k, Jan Vr?ovsk?, Vladim?r Kadlec, Jaroslav Kuchar
HIGHLIGHT: We release a large-scale, real-world vertical-blending dataset gathered bySeznam.cz web search engine.

184, TITLE: Revisiting Approximate Metric Optimization in the Age of Deep Neural Networks
https://doi.org/10.1145/3331184.3331347
AUTHORS: Sebastian Bruch, Masrour Zoghi, Michael Bendersky, Marc Najork
HIGHLIGHT: Through this study, we hope to show that the ideas from that work are more relevant than ever and can lay the foundation of learning-to-rank research in the age of deep neural networks.

185, TITLE: Name Entity Recognition with Policy-Value Networks
https://doi.org/10.1145/3331184.3331349
AUTHORS: Yadi Lao, Jun Xu, Sheng Gao, Jun Guo, Ji-Rong Wen
HIGHLIGHT: In this paper we propose a novel reinforcement learning based model for named entity recognition (NER), referred to as MM-NER.

186, TITLE: Revealing the Role of User Moods in Struggling Search Tasks
https://doi.org/10.1145/3331184.3331353
AUTHORS: Luyan Xu, Xuan Zhou, Ujwal Gadiraju
HIGHLIGHT: In this work, we show that a user's own mood. can systematically bias the user's perception, and experience while interacting with a search system and trying to satisfy an information need.

187, TITLE: Selecting Discriminative Terms for Relevance Model
https://doi.org/10.1145/3331184.3331357
AUTHORS: Dwaipayan Roy, Sumit Bhatia, Mandar Mitra
HIGHLIGHT: We propose three possible extensions of the relevance model that address this drawback.

188, TITLE: A Dataset of Systematic Review Updates
https://doi.org/10.1145/3331184.3331358
AUTHORS: Amal Alharbi, Mark Stevenson
HIGHLIGHT: This paper describes a dataset of systematic review updates in the field of medicine created using 25 Cochrane reviews.

189, TITLE: Query Performance Prediction for Pseudo-Feedback-Based Retrieval
https://doi.org/10.1145/3331184.3331369
AUTHORS: Haggai Roitman, Oren Kurland
HIGHLIGHT: We address the prediction challenge for pseudo-feedback-based retrieval methods which utilize an initial retrieval to induce a new query model; the query model is then used for a second (final) retrieval.

190, TITLE: Reinforcement Learning for User Intent Prediction in Customer Service Bots
https://doi.org/10.1145/3331184.3331370
AUTHORS: Cen Chen, Chilin Fu, Xu Hu, Xiaolu Zhang, Jun Zhou, Xiaolong Li, Forrest Sheng Bao
HIGHLIGHT: Hence, we propose to view the problem as a sequential decision making process to better capture the long-term effects of each recommendation in the list.

191, TITLE: Enhanced News Retrieval: Passages Lead the Way!
https://doi.org/10.1145/3331184.3331373
AUTHORS: Matteo Catena, Ophir Frieder, Cristina Ioana Muntean, Franco Maria Nardini, Raffaele Perego, Nicola Tonellotto
HIGHLIGHT: Exploiting this observation, we propose a novel version of the classical BM25 weighting model, called BM25 Passage (BM25P), which scores query results by computing a linear combination of term statistics in the different portions of news articles.

192, TITLE: Contextual Dialogue Act Classification for Open-Domain Conversational Agents
https://doi.org/10.1145/3331184.3331375
AUTHORS: Ali Ahmadvand, Jason Ingyu Choi, Eugene Agichtein
HIGHLIGHT: To address these problems, we propose a novel method, CDAC (Contextual Dialogue Act Classifier), a simple yet effective deep learning approach for contextual dialogue act classification.

193, TITLE: Accelerating Exact Inner Product Retrieval by CPU-GPU Systems
https://doi.org/10.1145/3331184.3331376
AUTHORS: Long Xiang, Bo Tang, Chuan Yang
HIGHLIGHT: In this work, we analyze the time cost of each phase in IPR solutions at first. Second, we exploit the characteristics of CPU-GPU systems to improve performance.

194, TITLE: LIRME: Locally Interpretable Ranking Model Explanation
https://doi.org/10.1145/3331184.3331377
AUTHORS: Manisha Verma, Debasis Ganguly
HIGHLIGHT: However, there is no systematic investigation that learns to interpret IR models, which is in fact the core contribution of our work in this paper. We explore three sampling methods to train an explanation model and propose two metrics to evaluate explanations generated for an IR model.

==========Demo Papers==========

195, TITLE: Solr Integration in the Anserini Information Retrieval Toolkit
https://doi.org/10.1145/3331184.3331401
AUTHORS: Ryan Clancy, Toke Eskildsen, Nick Ruest, Jimmy Lin
HIGHLIGHT: To illustrate the additional capabilities enabled by Anserini/Solr integration, we present a search interface built using the open-source Blacklight discovery interface.

196, TITLE: Parrot: A Python-based Interactive Platform for Information Retrieval Research
https://doi.org/10.1145/3331184.3331393
AUTHORS: Xinhui Tu, Jimmy Huang, Jing Luo, Runjie Zhu, Tingting He
HIGHLIGHT: In this paper, we propose Parrot1, a Python-based interactive platform for information retrieval research.

197, TITLE: An Open-Access Platform for Transparent and Reproducible Structured Searching

https://doi.org/10.1145/3331184.3331394
AUTHORS: Tony Russell-Rose, Jon Chamberlain
HIGHLIGHT: In this paper, we demonstrate a new approach to structured searching in which concepts are expressed as objects on a two-dimensional canvas.

198, TITLE: MatchZoo: A Learning, Practicing, and Developing System for Neural Text Matching
https://doi.org/10.1145/3331184.3331403
AUTHORS: Jiafeng Guo, Yixing Fan, Xiang Ji, Xueqi Cheng
HIGHLIGHT: In this paper, therefore, we present a novel system, namely MatchZoo, to facilitate the learning, practicing and designing of neural text matching models.

199, TITLE: AgentBuddy: an IR System based on Bandit Algorithms to Reduce Cognitive Load for Customer Care Agents
https://doi.org/10.1145/3331184.3331408
AUTHORS: Hrishikesh Ganu, Mithun Ghosh, Freddy Jose, Shashi Roshan
HIGHLIGHT: We describe a human-in-the loop system - AgentBuddy, that is helping Intuit improve the quality of search it offers to its internal Customer Care Agents (CCAs).

200, TITLE: AliISA: Creating an Interactive Search Experience in E-commerce Platforms
https://doi.org/10.1145/3331184.3331409
AUTHORS: Fei Xiao, Zhen Wang, Haikuan Huang, Jun Huang, Xi Chen, Hongbo Deng, Minghui Qiu, Xiaoli Gong
HIGHLIGHT: In this paper, we present our system, describe the underlying techniques, and discuss our experience in stabilizing reinforcement learning under an E-commerce environment.

201, TITLE: SCSS-LIE: A Novel Synchronous Collaborative Search System with a Live Interactive Engine
https://doi.org/10.1145/3331184.3331407
AUTHORS: Junyan Wang, Peng Zhang, Cheng Zhang, Dawei Song
HIGHLIGHT: In this paper, we present a novel Synchronous Collaborative Search System with a Live Interactive Engine (SCSS-LIE).

202, TITLE: Information Retrieval Meets Scalable Text Analytics: Solr Integration with Spark
https://doi.org/10.1145/3331184.3331395
AUTHORS: Ryan Clancy, Jaejun Lee, Zeynep Akkalyoncu Yilmaz, Jimmy Lin
HIGHLIGHT: This demonstration explores exactly such an integration: we evaluate performance under different analytical scenarios and present three simple case studies that illustrate the range of possible analyses enabled by seamlessly connecting Spark to Solr.

203, TITLE: Social Knowledge Graph Explorer
https://doi.org/10.1145/3331184.3331410
AUTHORS: Omar Alonso, Vasileios Kandylas, Serge-Eric Tremblay
HIGHLIGHT: In this paper we describe the main components of the system and showcase some examples.

204, TITLE: cwl_eval: An Evaluation Tool for Information Retrieval
https://doi.org/10.1145/3331184.3331398
AUTHORS: Leif Azzopardi, Paul Thomas, Alistair Moffat
HIGHLIGHT: We present a tool ("cwl_eval") which unifies many metrics typically used to evaluate information retrieval systems using test collections.

205, TITLE: TrecTools: an Open-source Python Library for Information Retrieval Practitioners Involved in TREC-like Campaigns
https://doi.org/10.1145/3331184.3331399
AUTHORS: Jo?o Palotti, Harrisen Scells, Guido Zuccon
HIGHLIGHT: This paper introduces TrecTools, a Python library for assisting Information Retrieval (IR) practitioners with TREC-like campaigns.

206, TITLE: Automatic Curation of Content Tables for Educational Videos
https://doi.org/10.1145/3331184.3331400
AUTHORS: Arpan Mukherjee, Shubhi Tiwari, Tanya Chowdhury, Tanmoy Chakraborty
HIGHLIGHT: We present a novel architecture to curate content tables for educational videos.

207, TITLE: Explanatory and Actionable Debugging for Machine Learning: A TableQA Demonstration

https://doi.org/10.1145/3331184.3331404
AUTHORS: Minseok Cho, Gyeongbok Lee, Seung-won Hwang
HIGHLIGHT: The goal of this demonstration is to show a debugging tool for such models, explaining answers to humans, known as explanatory debugging.

208, TITLE: A Pipeline for Disaster Response and Relief Coordination
https://doi.org/10.1145/3331184.3331405
AUTHORS: Pranav Maneriker, Nikhita Vedula, Hussein S. Al-Olimat, Jiayong Liang, Omar El-Khoury, Ethan Kubatko, Desheng Liu, Krishnaprasad Thirunarayan, Valerie Shalin, Amit Sheth, Srinivasan Parthasarathy
HIGHLIGHT: We present these results in a modularized, interactive map-based visualization, which can help emergency responders to better plan and coordinate disaster response.

209, TITLE: Event Tracker: A Text Analytics Platform for Use During Disasters
https://doi.org/10.1145/3331184.3331406
AUTHORS: Charles Thomas, Richard McCreadie, Iadh Ounis
HIGHLIGHT: In particular, Event Tracker provides a series of novel functionalities to realise this unified view of the event, namely: real-time identification of critical information, automatic grouping of content by the information needs of response officers, as well as real-time volunteers management and communication.

210, TITLE: KANDINSKY: Abstract Art-Inspired Visualization of Social Discussions
https://doi.org/10.1145/3331184.3331411
AUTHORS: Christina Lui, Sourav S. Bhowmick, Adam Jatowt
HIGHLIGHT: In this demonstration, we present a novel end-to-end visualization system called Kandinsky to supportmulti-faceted visualization of social discussions associated with an anchor post.

211, TITLE: EXACT: Attributed Entity Extraction By Annotating Texts
https://doi.org/10.1145/3331184.3331391
AUTHORS: Ke Chen, Lei Feng, Qingkuang Chen, Gang Chen, Lidan Shou
HIGHLIGHT: We propose a system called EXACT for extracting attributed entities from textual documents by performing explorative annotation tasks, which create attributes and bind them to tag values.

212, TITLE: Expert-Guided Entity Extraction using Expressive Rules
https://doi.org/10.1145/3331184.3331392
AUTHORS: Mayank Kejriwal, Runqi Shao, Pedro Szekely
HIGHLIGHT: In this demonstration paper, we present a system that allows domain experts to construct knowledge graphs by writing sophisticated rule-based entity extractors with minimal training, using a GUI-based editor that offers a range of complex facilities.

213, TITLE: An Experimentation Platform for Precision Medicine
https://doi.org/10.1145/3331184.3331396
AUTHORS: Vincent Nguyen, Sarvnaz Karimi, Brian Jin
HIGHLIGHT: We present information retrieval researchers with an on-line system which enables experimentation in search for precision medicine within the framework provided by the TREC Precision Medicine (PM) track.

214, TITLE: WestSearch Plus: A Non-factoid Question-Answering System for the Legal Domain
https://doi.org/10.1145/3331184.3331397
AUTHORS: Gayle McElvain, George Sanchez, Sean Matthews, Don Teo, Filippo Pompili, Tonya Custis
HIGHLIGHT: We present a non-factoid QA system that provides legally accurate, jurisdictionally relevant, and conversationally responsive answers to user-entered questions in the legal domain.

215, TITLE: Demonstrating Requirement Search on a University Degree Search Application
https://doi.org/10.1145/3331184.3331402
AUTHORS: Nicholas Mendez, Kyle De Freitas, Inzamam Rahaman
HIGHLIGHT: In this paper, we propose RevBoMIR, which utilizes a modified Boolean Model for Information Retrieval to retrieve requirements-based documents without sacrificing the expressiveness of requirements.

==========SIRIP Papers==========

216, TITLE: Alexa, Can You Help Me Shop?
https://doi.org/10.1145/3331184.3331443

AUTHORS: Yoelle Maarek
HIGHLIGHT: In this talk, we will discuss in more details the key stages required in addressing customer's needs, namely (1) understanding customers, (2) satisfying their needs, and (3) predicting them.

217, TITLE: Challenges in Search on Streaming Services: Netflix Case Study
https://doi.org/10.1145/3331184.3331440
AUTHORS: Sudarshan Lamkhede, Sudeep Das
HIGHLIGHT: We discuss salient challenges of building a search experience for a streaming media service such as Netflix.

218, TITLE: Challenges and Opportunities in Understanding Spoken Queries Directed at Modern Entertainment Platforms
https://doi.org/10.1145/3331184.3331433
AUTHORS: Ferhan Ture, Jinfeng Rao, Raphael Tang, Jimmy Lin
HIGHLIGHT: At a high level, our goal is to provide natural speech-based access to these myriad features as an alternative to physical button entry on a remote control.

219, TITLE: Ghosting: Contextualized Query Auto-Completion on Amazon Search
https://doi.org/10.1145/3331184.3331432
AUTHORS: Lakshmi Ramachandran, Uma Murthy
HIGHLIGHT: We present a behavioral recommendation model that uses customer search context to ghost on high-confidence queries.

220, TITLE: Simulacra and Selection: Clothing Set Recommendation at Stitch Fix
https://doi.org/10.1145/3331184.3331442
AUTHORS: Kevin Zielnicki
HIGHLIGHT: While such methods typically just augment a traditional browsing experience, Stitch Fix goes a step further by exclusively delivering curated selections of items, via algorithmically-assisted stylist recommendations.

221, TITLE: Searching for Communities: a Facebook Way
https://doi.org/10.1145/3331184.3331426
AUTHORS: Viet Ha-Thuc, Srinath Aaleti, Rongda Zhu, Nade Sritanyaratana, Corey Chen
HIGHLIGHT: This talk discusses these challenges in depth and describes our solution.

222, TITLE: From Semantic Retrieval to Pairwise Ranking: Applying Deep Learning in E-commerce Search
https://doi.org/10.1145/3331184.3331434
AUTHORS: Rui Li, Yunjiang Jiang, Wenyun Yang, Guoyu Tang, Songlin Wang, Chaoyi Ma, Wei He, Xi Xiong, Yun Xiao, Eric Yihong Zhao
HIGHLIGHT: We introduce deep learning models to the two most important stages in product search at JD.com, one of the largest e-commerce platforms in the world.

223, TITLE: Beyond Keyword Targeting: An End-to-End Ad Retrieval Framework for Sponsored Search
https://doi.org/10.1145/3331184.3331429
AUTHORS: Xiao Yang, Zhi Guo, Zongyao Ding
HIGHLIGHT: In this paper, we present an end-to-end ad retrieval framework for sponsored search.

224, TITLE: Nobody Said it Would be Easy: A Decade of R&D Projects in Information Access from Thomson over Reuters to Refinitiv
https://doi.org/10.1145/3331184.3331444
AUTHORS: Jochen L. Leidner
HIGHLIGHT: In this talk, I survey a small, non-random sample of research projects in information access carried out as part of the Thomson Reuters family of companies over the course of a 10+-year period.

225, TITLE: Family History Discovery through Search at Ancestry
https://doi.org/10.1145/3331184.3331430
AUTHORS: Peng Jiang, Yingrui Yang, Gann Bierner, Fengjie Alex Li, Ruhan Wang, Azadeh Moghtaderi
HIGHLIGHT: At Ancestry, we apply learning to rank algorithms to a new area to assist our customers in better understanding their family history.

226, TITLE: USEing Transfer Learning in Retrieval of Statistical Data
https://doi.org/10.1145/3331184.3331427
AUTHORS: Anton Firsov, Vladimir Bugay, Anton Karpenko

HIGHLIGHT: Following this trend, we combined DSSM-like architecture with USE (Universal Sentence Encoder) and BERT (Bidirectional Encoder Representations from Transformers) models in order to be able to fine-tune them on a small amount of click-through data and use them for information retrieval.

227, TITLE: Find Relevant Cases in All Cases: Your Journey at Doctrine
https://doi.org/10.1145/3331184.3331441
AUTHORS: Nicolas Fiorini
HIGHLIGHT: In this presentation, we provide some intuition regarding the specificities of legal IR (e.g., what is relevance?), and we introduce some of the solutions currently used on doctrine.fr.

228, TITLE: Non-factoid Question Answering in the Legal Domain
https://doi.org/10.1145/3331184.3331431
AUTHORS: Gayle McElvain, George Sanchez, Don Teo, Tonya Custis
HIGHLIGHT: We present work done on a QA system that is entirely based on IR and NLP, and does not rely on a structured knowledge base.

229, TITLE: Looking for Opportunities: Challenges in Procurement Search
https://doi.org/10.1145/3331184.3331428
AUTHORS: Stuart Mackie, David Macdonald, Leif Azzopardi, Yashar Moshfeghi
HIGHLIGHT: In this talk, we will provide an overview of procurement search and then describe the challenges in addressing the related search and recommendation tasks.

==========Doctoral Consortium==========

230, TITLE: Dynamic Content Monitoring and Exploration using Vector Spaces
https://doi.org/10.1145/3331184.3331412
AUTHORS: Benyou Wang
HIGHLIGHT: This doctoral research project investigates using Quantum Theory (QT) to represent language, especially in some dynamic scenarios, e.g. when dealing with dynamic corpora or interactive tasks.

231, TITLE: Characterizing the Stages of Complex Tasks
https://doi.org/10.1145/3331184.3331413
AUTHORS: Jiqun Liu
HIGHLIGHT: To address this issue at both theoretical and empirical levels, my dissertation aims to construct an explainable framework that can characterize the stages or states of complex search tasks over multiple dimensions and to apply the framework in proactive search path evaluation and recommendation.

232, TITLE: Ranking Robustness In Adversarial Retrieval Settings
https://doi.org/10.1145/3331184.3331414
AUTHORS: Gregory Goren
HIGHLIGHT: We presented a formalism of different notions of ranking robustness that gave rise to a few theoretical findings.

233, TITLE: Event Information Retrieval from Text
https://doi.org/10.1145/3331184.3331415
AUTHORS: Rashmi Sankepally
HIGHLIGHT: The goal of this work is to develop effective information retrieval systems that can help users to satisfy event-related information needs.

234, TITLE: Implicit Entity Recognition, Classification and Linking in Tweets
https://doi.org/10.1145/3331184.3331416
AUTHORS: Hawre Hosseini
HIGHLIGHT: In other words, the objective of our work is to recognize and identify core entities of a tweet when those entities are not explicitly mentioned; this process is referred to as Implicit Named Entity Recognition and Linking.

235, TITLE: Biomedical Heterogeneous Data Integration and Rank Retrieval using Data Bridges
https://doi.org/10.1145/3331184.3331417
AUTHORS: Priya Deshpande
HIGHLIGHT: We propose building data bridges to support retrieving ranked relevant documents from integrated repository.

236, TITLE: From Query Variations To Learned Relevance Modeling
https://doi.org/10.1145/3331184.3331418
AUTHORS: Binsheng Liu
HIGHLIGHT: In this PhD project,we focus on automatic query variation generation and try to reduce the gap to human generated variations.We plan to leverage advances of transfer learning and classic relevance modeling to generate high quality query variations to improve system performance.

237, TITLE: Multimodal Data Fusion with Quantum Inspiration
https://doi.org/10.1145/3331184.3331419
AUTHORS: Qiuchi Li
HIGHLIGHT: To answer this question, we propose to fuse multimodal data with complex-valued neural networks, motivated by the theoretical link between neural networks and quantum theory [4] and advances in complex-valued neural networks [9].

238, TITLE: Document Distance Metric Learning in an Interactive Exploration Process
https://doi.org/10.1145/3331184.3331420
AUTHORS: Marco Wrzalik
HIGHLIGHT: Therefore, this research proposes to investigate online adjustments to the similarity model using feedback generated during exploration or exploratory search.

239, TITLE: Measuring Job Search Effectiveness
https://doi.org/10.1145/3331184.3331421
AUTHORS: Alfan Farizki Wicaksono
HIGHLIGHT: In this work, we propose methodologies and measures for evaluating the quality of job search rankings from a user modeling perspective.

240, TITLE: Informing the Design of Conversational IR Systems: Framework and Result Presentation
https://doi.org/10.1145/3331184.3331422
AUTHORS: Souvick Ghosh
HIGHLIGHT: We propose a study to evaluate the users' preference of modalities when using conversational search systems.

241, TITLE: Evaluating Risk-Sensitive Text Retrieval
https://doi.org/10.1145/3331184.3331423
AUTHORS: Rodger Benham
HIGHLIGHT: Our research objectives are to: 1) Survey and revisit risk evaluation, taking into account frequentist and Bayesian inference approaches for comparing against multiple baselines; 2) Apply that new approach, evaluating a novel web search technique that leverages previously run queries to improve the effectiveness of a new user query; and 3) Explore how risk-sensitive component interactions affect end-to-end effectiveness in a search pipeline.

242, TITLE: Efficient and Effective Text-Annotation through Active Learning
https://doi.org/10.1145/3331184.3331424
AUTHORS: Markus Zlabinger
HIGHLIGHT: In my Ph.D. research, I address the two problems with the development of an unsupervised method for the computation of informative samples.

243, TITLE: A Domain-Independent and Multilingual Approach for Crisis Event Detection and Understanding
https://doi.org/10.1145/3331184.3331425
AUTHORS: Hernan Sarmiento
HIGHLIGHT: The main objective of this work is to study and exploit cross-lingual domain-independent patterns for detecting and characterizing social media messages generated in collective activity related to unexpected high-impact real-world events in social media platforms, and specifically on emergency situations.